

City of Norfolk

Testimony

**Committee on Government Reform
United States House of Representatives**

Impact of Hurricane Isabel on the City of Norfolk

Friday, October 10, 2003

Good morning Chairman Davis and members of the Committee. I am Ronald Keys, Director of Emergency Services for the City of Norfolk, and I am grateful for the opportunity to appear before this committee to discuss Norfolk's preparation for and response to Hurricane Isabel. My remarks are focused on three specific areas:

- How Norfolk prepared for Hurricane Isabel
- The actual impact of the storm
- Lessons learned and recommendations for the future

Preparations for the Storm

It is important to note that Norfolk's preparations and mobilization began well in advance of Hurricane Isabel. For example:

After 9-11 the City made a commitment to educate the community on how to prepare for and respond to both man made and natural disasters. The public sector, the private sector and the residents of the Hampton Roads community took that preparation seriously. In partnership with the local media, several TV weather specials were produced and aired as we entered the hurricane season. The City also used its publications, public service channel and web page to ensure the preparation message was constantly before the public's eye.

Norfolk had learned a lesson in 1998, during Hurricane Bonnie, when water treatment operations suffered a power outage. For Isabel, the City was prepared having upgraded its water treatment facility generators and leasing three generators to provide alternative power at Moore's Bridges, where upgrades will be complete in December. When the power went off, these generators allowed treatment of over 27 million gallons from Moore's Bridges and 28 million gallons from the 37th Street plant. Water service was seamless.

Norfolk involved universities and schools, the businesses community, civic leagues, and individual citizens in our preparedness plan and outreach activities. When Isabel struck, we had open lines of communications with all of these stakeholders to let them know how to prepare and what to expect from the storm.

Several months prior to the hurricane season, Norfolk's Emergency Shelter Program was reviewed to ensure the agreement between the City, the Norfolk Public School system and the American Red Cross was current and met shelter requirements. All shelters received a vulnerability assessment and the Southeastern Virginia Chapter of the American Red Cross recertified over 500 city employees in shelter management.

The weekend prior to the hurricane, Norfolk worked closely with the surrounding Hampton Roads Emergency Operation Centers, the state EOC and local community organizations to host a hurricane/public safety exposition in downtown Norfolk. Several thousand residents and visitors were in attendance.

The preparation process accelerated when the hurricane was several hundred miles away in the western Atlantic Ocean. A decision was made early to implement our emergency action plan based on the National Weather Service forecast that Isabel would make landfall on the east coast.

A Declaration of Local Emergency for Norfolk was declared at 8:00 a.m. on Tuesday September 16, 2003, to ensure that all of the State's resources would be available to respond to the aftermath of Isabel as well as paving the way for potential federal assistance, and, after several conference calls that included the Governor's office, State EOC and regional school systems, the Norfolk Emergency Operations Center (EOC) activated partial staffing.

The Emergency Operations Center was fully activated on Wednesday, September 17, 2003, at 11:00 a.m. and was closely followed by the opening of our first emergency shelter.

A mandatory evacuation order was issued for residents of low-lying areas and those residents were advised to be in a safe location prior to 11:00 a.m. Thursday morning, September 18, 2003.

Public affairs and other management staffed telephone banks, implemented the Emergency Website, provided all media with consistently updated weather and safety information, and responded to media queries to help keep residents informed.

Procurement was on hand to help secure equipment, services or other purchases that may have been required on an emergency basis.

Information Technology installed and maintained computer and communications equipment required to monitor facilities, communicate with field operations centers and the State's EOC.

Norfolk pre-positioned sand bags around our shelters prior to Isabel's landfall and all emergency generators and vehicles were operationally tested and topped off with fuel.

We focused heavily on interagency coordination and tested communications with our partners in the public and private sectors.

We participated in daily conference calls with the State EOC, FEMA, the National Weather Service and our regional partners sharing information about resources and strategies.

We prepared and distributed updated lists of essential personnel contact information.

Operational departments distributed emergency duty schedules/deployment plans and pre-positioned materials and equipment for effective response.

Impact of the Storm

Hurricane Isabel was the most devastating natural disaster to hit Norfolk in a generation. Fortunately, Norfolk was relatively successful in weathering this event -- we benefited from both good fortune and appropriate preparation by public and private sectors in advance of the storm.

During the height of the storm, from mid-day until late Thursday evening, we hunkered down in the EOC and monitored events as the storm's fury passed. As soon as the winds diminished to a permissible level, we began assessing the storm's impact and were pleased to note no immediate loss of life. Nevertheless:

- Over 98% of the city was without power
- 90% of traffic signal were out
- 1,250 people were in Norfolk shelters
- Over 1,400 trees were down
- Midtown Tunnel was flooded
- Three of four acute care hospitals were on generator power
- All 54 Schools would be closed for 7 days due to loss of power
- Damage assessment was in excess of \$84 million
- 1,000,000 cubic yards of debris required removal
- 1,642 buildings sustained structural damage and 17 were a total loss

On Thursday, approximately three inches of rain fell and tidal flooding resulted for several days. The Chesapeake Bay and its' surrounding tributaries reached a peak level of 8.32 feet on Thursday September 18th. Downtown Norfolk flooded at 7 feet.

Electrical power was lost to over 98% of the City; however drinking water and pumping stations remained online with backup generators. Personnel were placed at the facility for continuous operation until the power was restored - there was no reported interruption of service

Although power was lost to 126 wastewater pumping stations, generators and bypass pumps kept sewage overflows to a minimum.

The EOC worked tirelessly to coordinate with Dominion Power on the electrical outage estimates and priorities for restoration. We had an active running count of outages every few hours as a planning basis for passing our requirements to the State's EOC.

A large amount of damage resulted from fallen trees and storm debris. We tracked the removal of 1400 downed trees that were impacting Norfolk in one way or another. Some trees blocked access and others impeded power restoration. Our Public Works, Department of Neighborhood & Leisure Services and the Department of Planning closely coordinated the priorities for debris removal in support of our overall action plan.

Police provided traffic control shortly after the storm and manned traffic lights that were rendered inoperable by the loss of electricity and fallen trees. Dominion Power worked round the clock to get the lights back in operation.

Lessons learned and recommendation for the future

Early action by state and local officials and the National Weather Service to warn the public about the approaching storm allowed the residents time to prepare. Luckily, many of our citizens heeded that early warning by stocking up on water, food, flashlight and battery operated radios.

The early evacuation of low-lying areas possibly saved several lives

Conference calls prior, during and after the storm were extremely helpful to coordinate actions regarding everything from school closings to meeting the needs of the local jurisdictions. These calls were informative to the decision makers and vital to the emergency managers during the recovery phase.

Hurricane Isabel and the power outages it caused clearly pointed out the need to assess our critical infrastructure and the vulnerability of our communications systems, food and water distribution sites and even the inability to get diesel fuel for our emergency generators.

City provided relocation sites in city parking garages for approximately 8,000 vehicles of residents of low lying areas.

The localities need more help from the state and federal agencies respectively in reducing the logistics timeline for the delivery of resources. At least one state/regional all hazards exercise should be conducted annually with emphasis on the challenges of logistics.

The print media did an outstanding job in pre-storm checklist preparedness and keeping residents informed during periods without power. Overall, the media did their very best to keep the public updated on the approach of the storm and assisted the EOC in passing the latest information on everything from school opening to ice distribution sites.

The storm confirmed many of the vulnerabilities identified after September 11, 2001. Federal funds provided to reinforce security at water distribution facilities and to improve public safety communications were instrumental in our response to Isabel.

As a result of hurricane Isabel the loss of sand has put waterfront structures in danger; the problem has now reached a critical level. We urgently need federal funds for shoreline protection to avoid a catastrophe if another storm hits the Hampton Roads area.

In conclusion, I thank you for the opportunity to appear today and I am happy to answer questions.